

Math 1  
Exam 2 Review

All of the standards from module 2 will be on the exam. These standards are:

- **2A: graph inequalities** Students graph linear inequalities in two variables.
- **2B: identify inequalities** Students determine linear inequalities in two variables from their graphs.
- **2C: basic exponential equations** Students solve basic exponential equations and demonstrate understanding of exponents.
- **2D: systems (algebra)** Students solve systems of linear equations by substitution or elimination.
- **2E: systems (matrices)** Students solve systems of linear equations using matrices.

The following standards from module 1 are also on the exam:

- **1A: expressions** Students define quantities and interpret expressions.
- **1B: units** Students understand and use units as a way of interpreting expressions.
- **1C: equations** Students solve equations and describe the process used to solve them.
- **1D: inequalities** Students solve inequalities and describe the process used to solve them.
- **1E: solutions** Students represent solutions of equations and inequalities.

You may want to bring a straightedge for drawing lines. You may also want to bring colored pencils.

Some things that you will want to remember for the exam:

- When graphing, label axes and provide an appropriate scale.
- When graphing more than one line, provide a way to distinguish among the lines. Methods of distinguishing include labelling each line with its equation and color coding the lines.
- When graphing an inequality or system of inequalities, shade the appropriate region. Lack of shading is an automatic 4 in standard 2A.
- When graphing an inequality or system of inequalities, use a dashed line when the line is not part of the solution set.
- The format for interval notation is “lower number comma high number”. Use a bracket to indicate that an endpoint is part of the solution set. Use a parenthesis to indicate that endpoint is not part of the solution set. Since  $-\infty$  and  $\infty$  are not numbers, they are *never* part of the solution set.
- When writing a system of equations or inequalities, use a left brace to indicate that the statements are grouped together.
- When solving a system of equations using matrices, the valid row operations include swapping rows, multiplying (or dividing) every entry in a row by a nonzero number, and replacing a row of the matrix with the sum of the row to be replaced and one other row. (We often combine the last two row operations to save time.) The goal is to perform valid row operations on the matrix until the part to the left of the vertical bar is an identity matrix.